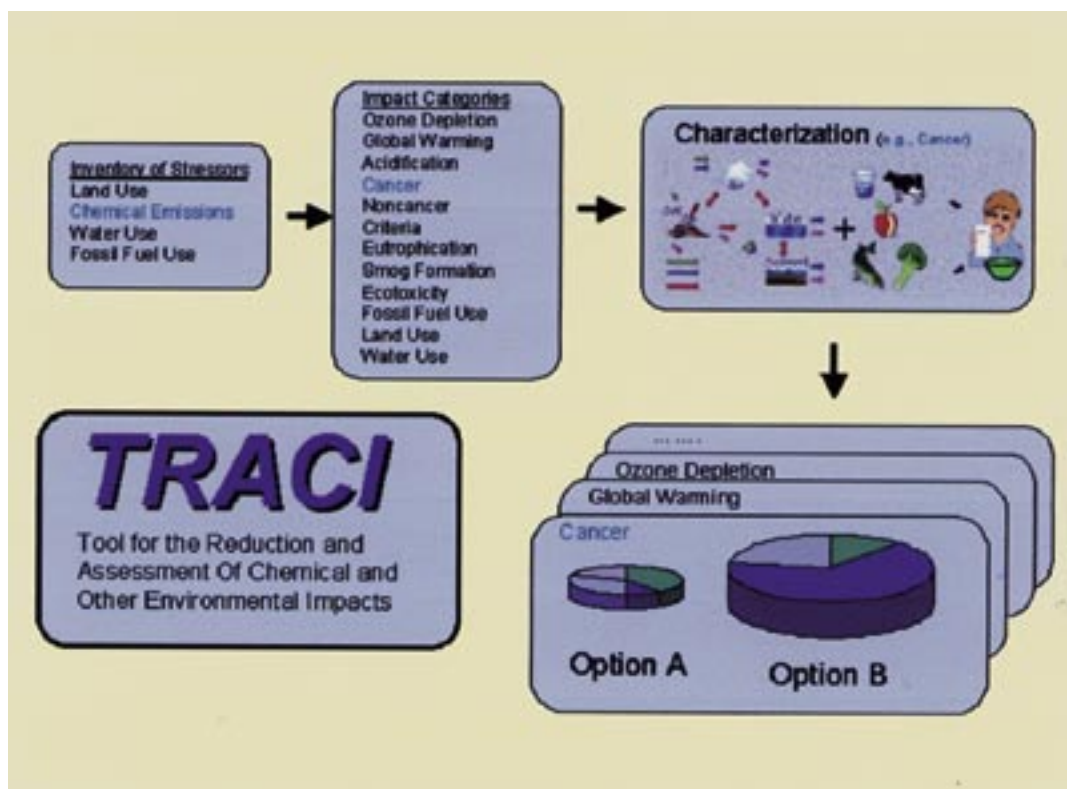


Tool for the Reduction and Assessment of Chemical and Other Environmental Impacts (TRACI): User's Guide and System Documentation



**Tool for the Reduction and Assessment of Chemical and
Other Environmental Impacts (TRACI):
User's Guide and System Documentation**

National Risk Management Research Laboratory
U.S. Environmental Protection Agency
Office of Research and Development
Cincinnati, Ohio 45268

Disclaimer

Use of TRACI (the Tool for the Reduction and Assessment of Chemical and other environmental Impacts), including but not limited to the impact assessment modeling, does not confer legal rights or impose legal obligations upon any member of the public. Furthermore, it does not release users from any potential liability, either administrative or judicial for any damage to human health or the environment.

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Foreword

The U.S. Environmental Protection Agency (EPA) is charged by Congress with protecting the Nation's land, air, and water resources. Under a mandate of national environmental laws, the Agency strives to formulate and implement actions leading to a compatible balance between human activities and the ability of natural systems to support and nurture life. To meet this mandate, EPA's research program is providing data and technical support for solving environmental problems today and building a science knowledge base necessary to manage our ecological resources wisely, understand how pollutants affect our health, and prevent or reduce environmental risks in the future.

The National Risk Management Research Laboratory (NRMRL) is the Agency's center for investigation of technological and management approaches for preventing and reducing risks from pollution that threaten human health and the environment. The focus of the Laboratory's research program is on methods and their cost-effectiveness for prevention and control of pollution to air, land, water, and subsurface resources; protection of water quality in public water systems; remediation of contaminated sites, sediments and ground water; prevention and control of indoor air pollution; and restoration of ecosystems. NRMRL collaborates with both public and private sector partners to foster technologies that reduce the cost of compliance and to anticipate emerging problems. NRMRL's research provides solutions to environmental problems by: developing and promoting technologies that protect and improve the environment; advancing scientific and engineering information to support regulatory and policy decisions; and providing the technical support and information transfer to ensure implementation of environmental regulations and strategies at the national, state, and community levels.

This publication has been produced as part of the Laboratory's strategic long-term research plan. It is published and made available by EPA's Office of Research and Development to assist the user community and to link researchers with their clients.

Hugh W. McKinnon, Director
National Risk Management Research Laboratory

Abstract

TRACI allows the examination of the potential for impacts associated with the raw material usage and chemical releases resulting from the processes involved in producing a product. TRACI allows the user to examine the potential for impacts for a single life cycle stage, or the whole life cycle, and to compare the results between products or processes.

The purpose of TRACI is to allow a determination of priorities or a preliminary comparison of two or more options on the basis of the following environmental impact categories: ozone depletion, global warming, acidification, eutrophication, photochemical smog, human health cancer, human health noncancer, human health criteria, ecotoxicity, fossil fuel use, land use, and water use. TRACI is an impact assessment tool that will support consistency in environmental decision making. It is recognized that additional tools may be useful to assess, prioritize and reduce potential environmental impacts. This user's guide presents information to assist in the use of, limitations and uncertainties associated with, and information concerning, the methodologies within TRACI.

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Table of Contents

Disclaimer	ii
Foreword	iii
Abstract	iv
List of Figures	viii
List of Tables	ix
Acronyms	x
Acknowledgments	xi
Chapter 1. Introduction to TRACI	1
1.1 Overview	1
1.2 TRACI	1
1.3 Life Cycle Impact Assessment (LCIA)	2
1.4 Limitations of TRACI	3
1.5 Conclusions	3
1.6 Document Organization	4
Chapter 2. How to Use TRACI	5
2.1 Overview of TRACI's Functions	5
2.2 Data Structure	5
2.3 Installation and Uninstallation	6
2.3.1 <i>Installation</i>	6
2.3.2 <i>Uninstallation</i>	7
2.4 Introduction Screens	7
2.5 Main Menu	9
2.6 Program Overview	10
2.7 Enter/Edit LCI Data	10
2.7.1 <i>Projects in TRACI</i>	10
2.7.2 <i>Add a New Project Description</i>	11
2.7.3 <i>Edit/View an Existing Project Description</i>	12
2.7.4 <i>Find a Project</i>	13
2.7.5 <i>View Product List and Related Projects</i>	13
2.7.6 <i>Add a New Product</i>	14
2.7.7 <i>Edit/View an Existing Product</i>	15
2.7.8 <i>Add/Edit Life Cycle Stages</i>	16
2.7.9 <i>Add a New Process</i>	17
2.7.10 <i>Edit/View an Existing Process</i>	18
2.7.11 <i>Add a New Resource/Release</i>	19

Add a New Chemical Release (Output)	20
Add Land Use Data	21
Add Fossil Fuel Use Data	22
Add Water Use Data	22
2.7.12 <i>Importing Releases</i>	22
2.7.13 <i>Edit/View Resources and Releases</i>	24
2.7.14 <i>View Available Factors</i>	26
2.7.15 <i>View TRACI's Characterization Factors</i>	27
2.7.16 <i>Enter Process Details</i>	29
2.7.17 <i>Add/Edit Related Projects</i>	32
2.8 Perform Calculations	33
2.8.1 <i>Setting for Calculations</i>	33
2.8.2 <i>View the Results</i>	34
Inventory Table	34
Classification Table	35
Characterization Tables	36
Characterization Graphs	38
Characterization of Resources/Releases for One Process	39
Characterization of Multiple Products by Life Cycle Stage	40
Characterization of Multiple Processes for One Product	40
Characterization of Life Cycle Stages for One Product	41
Characterization of Resources/Releases for Multiple Processes for One Product ...	42
Characterization of Resources/Releases at the Product Level	43
Abbreviations in Tables and Graphs	44
Other Features for Graphs and Tables	46
2.9 Transfer Data	46
Chapter 3. Introduction to Life Cycle Assessment	49
3.1 Life Cycle Assessment (LCA)	49
3.2 Components of LCA	49
3.2.1 <i>Goal Definition and Scoping</i>	50
3.2.2 <i>Inventory Analysis</i>	51
3.2.3 <i>Life Cycle Impact Assessment</i>	52
3.2.4 <i>Interpretation</i>	53
3.3 Product Stages	53
3.3.1 <i>Raw Materials Acquisition</i>	53
3.3.2 <i>Manufacturing</i>	54
Materials Manufacture	54
Product Fabrication	54
Filling/Packaging/Distribution	54
3.3.3 <i>Use/Reuse/Maintenance</i>	54
3.3.4 <i>Recycle/Waste Management</i>	54
3.4 Calculating the Results	54
3.5 Data Sources	55
Chapter 4. Providing Inventory Data	57
Project Description Worksheet	58
Inventory of Resources and Releases	59
Appendix A. Glossary	A-1

Appendix B. Location Specific Data B-1

Appendix C. Bibliography C-1

List of Figures

Figure 2-1. Levels of LCI Data	6
Figure 2-2. Splash Screen	7
Figure 2-3. Introduction Screen	8
Figure 2-4. EPA Disclaimer	8
Figure 2-5. Main Menu	9
Figure 2-6. Projects in TRACI	10
Figure 2-7. Add New Project Description	11
Figure 2-8. Find Project	13
Figure 2-9. Projects in TRACI with Details	14
Figure 2-10. Add a New Project	14
Figure 2-11. Edit an Existing Product	15
Figure 2-12. Add/Edit Life Cycle Stages	16
Figure 2-13. Add Process	17
Figure 2-14. Edit Process	18
Figure 2-15. Add Release	19
Figure 2-16. View Release	20
Figure 2-17. Import Data	24
Figure 2-18. View Release	25
Figure 2-19. Available Factors	26
Figure 2-20. TRACI Characterization Factors	28
Figure 2-21. Process Details	29
Figure 2-22. Process Boundaries	30
Figure 2-23. Data Quality	31
Figure 2-24. Add/Edit Related Project(s)	32
Figure 2-25. Setting for Calculations	33
Figure 2-26. Inventory Results	34
Figure 2-27. Classification Results	35
Figure 2-28. Characterization Results	37
Figure 2-29. Resources/Releases for One Process	39
Figure 2-30. Multiple Products by Life Cycle Stage	40
Figure 2-31. Multiple Processes for One Product	41
Figure 2-32. Life Cycle Stages for One Product	42
Figure 2-33. Resources/Releases for Multiple Processes for One Product	43
Figure 2-34. Resources/Releases at the Product Level	44
Figure 2-35. Transfer LCI Data	46
Figure 2-36. Export TRACI Data	47
Figure 2-37. Set Export Criteria	48
Figure 3-1. Life Cycle Assessment Framework	50
Figure 3-2. Inputs and Outputs	52
Figure 3-3. Sources of Data	56
Figure B-1. Census Regions	B-2

List of Tables

Table 2-1. Preparing Import Table	23
Table 2-2. Location Abbreviations	45
Table 2-3. Impact Type Abbreviations	45
Table 2-4. Life Cycle Stage Abbreviations	45
Table B-1. Geographic Levels for Impacts	B-1
Table B-2. Geographical Location Abbreviations and Designated Regions	B-2

Acronyms

CAS	Chemical Abstract Service
EPA	Environmental Protection Agency
g	Gram
gal	Gallon
ISO	International Organization for Standardization
kg	Kilogram
L	Liter
lb	Pound
LC	Life Cycle
LCI	Life Cycle Inventory
LCIA	Life Cycle Impact Assessment
LCA	Life Cycle Assessment
M ³	Cubic Meter
mg	Milligram
MJ	Mega Joule
Qty	Quantity
scf	Standard Cubic Foot
SETAC	Society of Environmental Toxicology and Chemistry
sq.ft	Square Foot
sq.km	Square Kilometer
sq.mi	Square Mile
T&E	Threatened and Endangered Species
TRACI	Tool for the Reduction and Assessment of Chemical and Other Environmental Impacts
UOM	Unit of Measurement

Acknowledgments

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